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COOPERATIVE EXTENSION WORK IN AGRICULTURE AND HOME ECONOMICS.

U. S. DEPARTMENT OF AGRICULTURE
AND STATE AGRICULTURAL COLLEGES,
COOPERATING.

STATES RELATIONS SERVICE, OFFICE OF
EXTENSION WORK, NORTH AND WEST,
WASHINGTON, D. C.

BOYS' AND GIRLS' CLUB WORK.

PRODUCE THE INFERTILE EGG FOR MARKET.

Prepared by the Animal Husbandry Division, Bureau of Animal Industry, United States Department of Agriculture.

It is estimated that the loss in the United States from improper methods of producing and handling eggs amounts to fully \$45,000,000 each year. Probably one-third of this loss is due to the partial hatching of fertile eggs which have been allowed to become warm enough to incubate, and is preventable.

What is an infertile egg?—An infertile egg is one that is laid by a hen that has not been allowed to run with a male bird. In most cases 14 days is long enough to wait for the eggs to become infertile after the male bird is removed from the females. The male bird in the flock has no influence on the number of eggs the hens lay. He merely fertilizes the germ of the egg, which is not necessary when the egg is to be sent to market or used for table purposes. It is impossible to hatch an infertile egg or to cause a blood ring to form in one. Infertile eggs keep in good condition in temperatures that will cause fertile eggs to rot. After the hatching season, cook, can, sell, or confine all of the male birds. Hens not running with a male bird will produce infertile eggs—quality eggs that keep best and market best.

What is a fertile egg?—A fertile egg is just the opposite of the infertile in many respects. It is the egg that is produced from hens that are running with male birds, although occasionally there are hens running

with male birds that lay infertile eggs. This is often the case with hens that are confined in yards and runs, and birds that do not have green feed, or those that are overfat. The fertile egg should only be produced during the breeding season. The fertile egg is the one from which the chick is hatched, and that spoils so quickly when subjected to the ordinary methods of handling on the farm and when marketed in the hot summer months.

RULES FOR HANDLING EGGS ON THE FARM.

Heat is the great enemy of eggs, both fertile and infertile. Poultry-club members are urged to follow these simple rules, which cost nothing but time and thought, and will add dollars to the poultry-yard returns:

1. Keep the nests clean; provide one nest for every four hens.
2. Gather the eggs twice daily.
3. Keep the eggs in a cool, dry room or cellar.
4. Market the eggs at least twice a week.
5. Sell, kill, or confine all male birds as soon as the hatching season is over.

NOTE.—This is one of a series of follow-up circulars (the K series) printed for the exclusive use of club members and club leaders. Other persons desiring poultry literature should write to their State agricultural college or ask for bulletins noted below.

PUBLICATIONS OF THE U. S. DEPARTMENT OF AGRICULTURE RELATING TO POULTRY.

AVAILABLE FOR FREE DISTRIBUTION BY THE DEPARTMENT.

- Standard Varieties of Chickens. (Farmers' Bulletin 51.)
- Poultry Management. (Farmers' Bulletin 287.)
- Pheasant Raising in the United States. (Farmers' Bulletin 390.)
- Capons and Caponizing. (Farmers' Bulletin 452.)
- Hints to Poultry Raisers. (Farmers' Bulletin 528.)
- Important Poultry Diseases. (Farmers' Bulletin 530.)
- Boys' and Girls' Poultry Clubs. (Farmers' Bulletin 562.)
- Poultry House Construction. (Farmers' Bulletin 574.)
- Natural and Artificial Incubation of Hens' Eggs. (Farmers' Bulletin 585.)
- Natural and Artificial Brooding of Chickens. (Farmers' Bulletin 624.)
- Simple Trap Nest for Poultry. (Farmers' Bulletin 682.)

- Squab Raising. (Farmers' Bulletin 684.)
- Duck Raising. (Farmers' Bulletin 697.)
- Goose Raising. (Farmers' Bulletin 767.)
- Turkey Raising. (Farmers' Bulletin 791.)
- Mites and Lice on Poultry. (Farmers' Bulletin 801.)

FOR SALE BY THE SUPERINTENDENT OF DOCUMENTS, GOVERNMENT PRINTING OFFICE, WASHINGTON, D. C.

- Guinea Fowl and Its Use as Food. (Farmers' Bulletin 234.) Price, 5 cents.
- Commercial Fattening of Poultry. (Department Bulletin 21.) Price, 10 cents.
- White Diarrhea of Chicks, with Notes on Coccidiosis in Birds. (Bureau of Animal Industry Circular 128.) Price, 5 cents.
- A System of Poultry Accounting. (Bureau of Animal Industry Circular 176.) Price, 5 cents.

PRODUCE INFERTILE EGGS!

FERTILE EGGS SPOIL QUICKLY IN SUMMER WEATHER.



No. 1. Fertile egg after 21 hours at 103° F.
FERTILE GERM BEGINNING TO HATCH
NOT PLENTY FOR FOOD.



No. 2. Fertile egg after 36 hours at 103° F.
BLOOD RING FORMED. NOT GOOD FOR FOOD.



No. 3. Fertile egg after 48 hours at 103° F.
BLOOD RING FULLY DEVELOPED. USEFUL FOR MARKET.
WILL BE THROWN OUT BY CANDLER.



No. 4. Fertile egg after 72 hours at 103° F.
BLOOD VESSELS OR EMBRYO OR CHICK CLEARLY MARKED.



No. 5. Fertile egg after 7 days at 103° F.
COMPARE WITH INFERTILE EGG AND FRESH EGG.

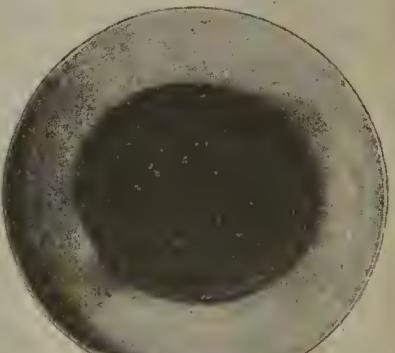
INFERTILE EGGS KEEP BEST AND MARKET BEST IN SUMMER HEAT.



FRESH EGG.



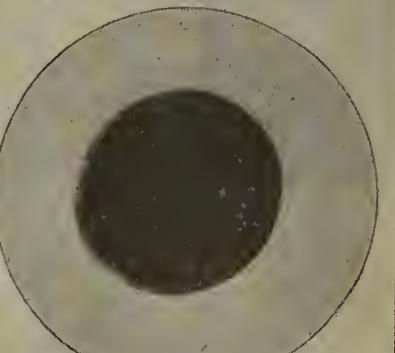
1A. Infertile egg after 21 hours at 103° F.
COMPARE WITH FERTILE EGG AND FRESH EGG.



2A. Infertile egg after 36 hours at 103° F.
COMPARE WITH FERTILE EGG AND FRESH EGG.



3A. Infertile egg after 48 hours at 103° F.
STILL GOOD FOOD.



4A. Infertile egg after 72 hours at 103° F.
NOT AN EGG. STILL GOOD FOOD.



5A. Infertile egg after 7 days at 103° F.
STILL EGG. STILL GOOD FOOD.

FERTILE EGGS COST THE FARMER \$15,000,000 A YEAR.

Farmers lose \$45,000,000 annually from bad methods of producing and handling eggs. One-third of this loss is preventable, because it is due to the partial hatching of fertile eggs which have been allowed to become warm enough to begin to incubate.

The rooster makes the egg fertile.

The fertile egg makes the blood ring.

You can save the \$15,000,000 now lost from blood rings by keeping the male bird from your flock after the hatching season is over.

The rooster does not help the hens to lay. He merely fertilizes the germ of the egg. The fertile germ in hot weather quickly becomes a blood ring, which spoils the egg for food and market. Summer heat has the same effect on fertile eggs as the hen or incubator.

INFERTILE EGGS WILL NOT BECOME BLOOD RINGS.

After the hatching season cook, sell, or pen your rooster. Your hens not running with a male bird will produce infertile eggs—quality eggs that keep best and market best.

RULES FOR HANDLING EGGS ON THE FARM.

Heat is the great enemy of eggs, both fertile and infertile. Farmers are urged to follow these simple rules, which cost nothing but time and thought and will add dollars to the poultry yard returns:

1. Keep the nests clean; provide one nest for every four hens.
2. Gather the eggs twice daily.
3. Keep the eggs in a cool, dry room or cellar.
4. Market the eggs at least twice a week.
5. Sell, kill, or confine all male birds as soon as the hatching season is over.

NOTICE.

Valuable published information on the raising and care of poultry and eggs and individual advice on these subjects may be obtained by writing to the Bureau of Animal Industry, U. S. Department of Agriculture, Washington, D. C.

Approved:

D. F. HOUSTON, Secretary of Agriculture,
WASHINGTON, D. C., May 3, 1918.

A. D. MELVIN,

Chief, Bureau of Animal Industry.

(Issued March 11, 1918.)